



HT-127

IN THE UNITED STATES PATENT & TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Lars Ingvarsson : Examiner: Debra M. Sullivan
Mark: A Production Line And A : Group Art Unit: 3725
Method Of Forming Profiles :
Serial No.: 10/590, 183 :
Filed: August 18, 2006 :

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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APPEAL BRIEF

I. INTRODUCTION

This is an Appeal from the Final Rejection of claims 1 – 8 and 13 – 18, made in the Official Action dated April 16, 2010.

An Appendix of Appealed Claims is attached hereto.

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MARK P. STONE
Reg. No. 27,954

8/25/10
(Date of Deposit)

II. REAL PARTY IN INTEREST

Ortic 3D AB, a Swedish Corporation having its principal place of business at Ragaker 47, S-781 93 Borlange, Sweden, the Assignee of all right, title and interest in and to the present patent application, is the real party in interest.

III. RELATED APPEALS AND INTERFERENCES

Applicant, Applicant's Assignee, and the legal representative of Applicant and Applicant's Assignee, are unaware of any prior or pending appeals, interferences, or judicial proceedings which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision in the present appeal.

IV. STATUS OF CLAIMS

Claims 1 – 8 and 13 – 18 are presented for review on appeal. These claims have been rejected over the prior art.

Claims 9 – 12 and 19 have been withdrawn from consideration as a result of a Restriction Requirement.

No claims have been objected to, cancelled, allowed, or indicated to contain allowable subject matter.

V. STATUS OF AMENDMENTS

No amendment to the claims, or other response, has been filed subsequent to the Final Action dated April 16, 2010.

VI. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a method for forming, in a production line, profiles designated by reference numeral 50, having a cross section that varies along the length thereof (Applicant's Specification, page 3, lines 4 – 5). The profiles are formed from a metal strip designated by reference numeral 10 that is unwound from a coil designated by reference numeral 9. (Applicant's Specification, page 2, lines 18 – 19; Figures 1 – 2 of the drawings). The method employs edge cutters designated by reference numeral 14 and a plurality of roll-forming units designated by reference numerals 17 – 24 (Applicant's Specification, page 2, lines 20 – 22; Figures 1 – 2 of the drawing). The edge cutters and the roll-forming units are individually displaceable sideways relative to the strip 10 (Applicant's Specification, page 2, lines 30 – 32).

The steps of the method comprise controlling the edge cutters along a first pair of opposed curved lines designated by reference numerals 51, 52 to sever opposed edges of the strip as the strip moves along the production line to provide the strip with curved opposed edges (Applicant's Specification, page 1, lines 20 – 21; page 3, lines 4 – 11; page 3, lines 23 – 28; Abstract of the Disclosure; and Figure 8 of the drawing).

After the edges have been cut, the roll-forming units are controlled along a second pair of opposed curved lines designated by reference numerals 53 and 56 for forming a first pair of corners defining opposed flanges designated by reference numeral 79, 80 to each side of the center 76 of the metal strip as the strip moves through a first roll-forming section of a production line (Applicant's Specification, page 3, lines 4 – 11; Figures 6 – 8 of the drawing).

Thereafter, the roll-forming units are controlled along a third pair of opposed curved lines designated by reference numerals 54 and 58 for forming a second pair of corners defining opposed sides designated by reference numerals 77, 78 to each side of the center 76 of the metal strip between the first corners after the first corners have been formed, as the strip moves through a second roll-forming section of a production line (Applicant's Specification, page 3, lines 4 – 11; Figures 6 – 8 of the drawing).

The curvatures of the first pair of opposed curved lines 51, 52, the second pair of opposed curved lines 53, 56, and the third pair of opposed curved lines 54, 58 vary the cross section of the profile formed from the strip along the length thereof. (Applicant's Specification, page 3, lines 4 – 11; Abstract of the Disclosure; Figures 6 – 8 of the drawing).

VII. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are:

1. Whether claims 1 – 3 are unpatentable under 35 U.S.C. Section 103(a) over a combination of Ingvarsson et al (U.S. Patent No. 7, 107, 807) and Green et al (U.S. Patent No. 7, 111, 481);
and
2. Whether claims 4 – 8 and 13 – 18 are unpatentable under 35 U.S.C. Section 103(a) over a combination of Ingvarsson et al, Green et al, and the Schule publication (US 2004/0244453).

VIII. ARGUMENT

Claim 1 is the only independent claim presented for review in the pending appeal. For the purpose of simplifying the issues, the prior art rejection of the claims made in the Final Action will be argued only with respect to appealed independent claim 1. If this claim is held to be allowable, the remaining dependent claims on appeal will be allowable, at least for the same reasons as parent independent claim 1.

At pages 4 – 5 of the Final Action dated April 16, 2010, the Examiner responds to the arguments made by the Applicant in an Amendment filed on January 21, 2010, responding to a rejection of independent claim 1 as being obvious over a combination of the Ingvarsson et al and Green et al patents. The Examiner states, in pertinent part:

“Applicant’s arguments filed January 21, 2010 have been fully considered but they are not persuasive. Applicant argues that neither Ingvarsson et al and Green et al teach or suggest the steps of forming two pairs of corners sequentially along two opposed pairs of curved lines for varying the cross section of the forming profile as a result of variations in the length of the formed opposed flanges and heights of the formed opposed side walls as a result of the curvatures of the first and second pairs of opposed curved lines.

The examiner respectfully disagrees. Ingvarsson et al discloses a method of forming profiles with a cross section that varies along the length (i.e. curved edges and varying radius of curvature, see col. 6 lines 4 – 6, wherein roll-forming units (91 – 94, 95 – 98) are individually adjusted such that the angle can be adjusted to relation to the longitudinal axis of the forming section and can also be moved in parallel transversely to the longitudinal axis. Therefore, it is inherent that the edge cutters are along a first curved line to cut the edges of the strip material to the desired curvature and the roll-forming section that form the first pair of corners are along a second curved line that is positioned further inward to the strip in order to contact the cut edges of the strip and deform them into the first pair of corners and the second roll-forming section that forms the second pair of corners are along a third curved line that is positioned further inward than the first roll-forming section in order to contact the strip material to form the second pair of corners, thereby forming a profile with a cross-section that varies along the length (i.e. curved)."

The specific section of the Ingvarsson et al patent relied upon by the Examiner in support of the rejection of independent claim 1 (Column 6, Lines 4 – 6) states the following:

"...Each group of forming stations is movable individually in this way, meaning that it is also possible to produce sheets having curved edges and varying radius of curvature on each individual sheet, in addition to producing sheets with straight edges..."

Accordingly, the disclosure of Ingvarsson et al relied upon to support the rejection of independent claim 1 discloses only the first step of the method defined by independent claim 1 – namely, "...controlling the edge cutters along a first pair of opposed curved lines (51, 52) to sever opposed edges of said strip as said strip moves along the production line to provide the strip with curved opposed edges; ...".

However, the Examiner contends that the remaining steps of the method defined by independent claim 1 are "inherent" from the disclosure of Ingvarsson et al, at column 6, lines 4 – 6. Applicant respectfully disagrees with the Examiner's conclusion.

In addition to controlling the edge cutters along a first pair of curved lines to sever opposed edges of the strip as the strip moves along a production line to provide the strip with curved edges, the method defined by independent claim 1 includes the steps of:

“thereafter controlling the roll-forming units along a second pair of opposed curved lines (53, 56) for forming a first pair of corners (53, 56) defining opposed flanges (79, 80) to each side of the center of said metal strip (10) as said strip moves through a first roll-forming section of said production line, and

thereafter controlling the roll-forming units along a third pair of opposed curved lines (54, 58) for forming a second pair of corners (54, 58) defining opposed sides (77, 78) to each side of the center of said metal strip between said first corners, after said first corners have been formed, as said strip moves through a second roll-forming section of the production line,

wherein the curvatures of the first, second, and third pairs of opposed curved lines vary the cross section of the profile formed from the strip along the length thereof.”

There is clearly no teaching or suggestion in the portion of the Ingvarsson et al disclosure relied upon by the Examiner of the above-quoted steps of the method expressly defined by independent claim 1. On the contrary, the portion of Ingvarsson et al relied upon by the Examiner discloses nothing more than the first step of the claimed method in which edge cutters are moved along a first pair of opposed curved lines to provide the strip with curved opposed edges. The Examiner’s conclusion that the remaining steps of the method defined by independent claim 1 are inherent from column 6, lines 4 – 6 of Ingvarsson et al is in conclusion based only upon speculation without any evidence or support for this conclusion in the prior art itself.

Applicant respectfully submits that Ingvarsson et al does not teach or suggest, either expressly or inherently, a method in which edge cutters are moved along a first pair of opposed curved lines to sever opposed edges of a strip to provide the strip with curved opposed edges; controlling roll-forming units along a second pair of opposed curved lines for forming a pair of corners defining opposed flanges to each side of the center of the metal strip; controlling roll-forming units along a third pair of opposed

curved lines for forming a second pair of corners defining opposed sides to each side of the center of the metal strip between the first corners, wherein the curvatures of the first, second and third pairs of opposed curved lines vary the cross section of the profile formed from the strip along the length thereof.

The method defined by independent claim 1 results in a profile in which, as illustrated by Figures 7 – 8 of the drawing, the width of the center portion 76 of the metal strip is variable; the heights of the sidewalls 77, 78 are variable; and the lengths of the flanges 79, 80 are variable, as a direct result of the curvatures of the first, second and third pairs of opposed curved lines (51, 52; 53, 56; and 54, 58).

Applicant respectfully submits that the Ingvarsson et al patent does not teach or suggest the method defined by independent claim 1, when all positively recited features of the claim are considered in the patentability determination, and that the Examiner's conclusion that claimed method is inherent from Ingvarsson et al is erroneous.

In addition to the above, the disclosure of Ingvarsson et al advocates that the two sides 25, 26 of the formed profile (Figures 3 and 6 of U.S. Patent No. 7, 107, 807) are first raised, and thereafter the ends 57, 28 of the sides 25, 26, respectively, are shaped. The shape of the sides 25, 26, and their respective ends 27, 28, are not varied.

The Green et al patent, which was combined with U.S. Patent No. 7, 107, 807 in the Final Action, discloses a profile which is constant in shape and in which all of the corners follow a straight line.

Since neither the Ingvarsson et al patent or the Green et al teaches or suggests a method which controls roll-forming units along a second pair of opposed curved lines for forming a first pair of corners defining opposed flanges, and thereafter controls roll-forming units along a third pair of opposed curved lines for forming a second pair of corners defining opposed sides, in which the curvatures of the second and third pairs of opposed curved lines vary the cross section of the formed profile, a combination of Ingvarsson et al and Green et al likewise cannot teach these positively recited features of the method defined by independent claim 1.

Since neither Ingvarsson et al or Green et al teaches or suggests the method defined by independent claim 1 when all positively recited features of the claim are considered in the patentability determination, the only basis for combining/modifying the references to result in Applicant's claimed method must be derived from the use of Applicant's own disclosure as a guide for selectively modifying/combining different portions of the individual references. However, a rejection of a claim based upon a hindsight reconstruction using Applicant's own disclosure as a guide for the combination, is improper as a matter of law. See, for example, Orthopedic Equipment Co. v. United States, 217 USPQ 193 (Fed. Cir. 1983) In re Fritch, 23 USPQ2d 1780 (Fed. Cir. 1992); Micro Chemical Co., Inc. v. Great Plains Chemical Co., Inc., 41 USPQ2d 1238 (Fed. Cir. 1997).

IX. CONCLUSION

Applicant respectfully submits, for the reasons discussed herein and throughout the prosecution of this patent application, that independent claim 1 is allowable over the prior art applied in the Final Rejection. Appealed dependent claims 2 – 8 and 13 – 18, which depend directly or indirectly from

independent claim 1, are believed to be allowable, at least for the same reasons as parent independent claim 1.

Applicant respectfully requests that the rejection of the claims made in the Final Action dated April 16, 2010 be reversed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. P. Stone', with a stylized flourish at the end.

Mark P. Stone
Registration No. 27, 954
Attorney for Applicant
50 Broadway
Hawthorne, NY 10532
914-769-1106